COHEN, DIPPELL AND EVERIST, P. C.

EXHIBIT E

ENGINEERING REPORT RE
APPLICATION FOR A

NEW STATION IN NEW ALBANY, INDIANA

CHANNEL 234A (94.7 MHZ) 3.0 KW (H&V) 100 METERS
NOVEMBER 1991

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington)
)ss
District of Columbia)

Donald G. Everist, being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer, a Registered Professional Engineer in the District of Columbia, and is Secretary - Treasurer of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1200 L Street, N.W., Suite 1100, Washington, D.C. 20005.

COHEN, DIPPELL AND EVERIST, P. C.

Introduction

This engineering report has been prepared on behalf of Midamerica Electronics Service, Inc. ("Midamerica") in support of its application to construct a new Class A FM broadcast station at New Albany, Indiana. The FM operation is proposed on Channel 234A (94.7 mHz) with an effective radiated power (ERP) of 3.0 kW (H&V) and 100 meters antenna height above average terrain (HAAT).

The closing window date for filing of the application has been set for November 15, 1991.

Exhibits requested by Section V-B of FCC Form 301 are included in this engineering report.

Transmitter Site

The proposed antenna will be located in Floyd County, Indiana, approximately 8.2 km (5.1 miles) west of New Albany, north of the intersection of State Route 62 and Interstate Route 64. The geographic coordinates of the proposed site are as follows:

North Latitude: 38° 17′ 23"
West Longitude: 85° 54′ 38"

Equipment Data

Transmitter: Type approved

Antenna: Harris Corporation FML-3E, three sections, circularly polarized

Power Data

Power input to antenna:	1.925 kW
Antenna power gain (H&V):	1.5588
Effective radiated power (H&V)	3.00 kW

Elevation Data

(a) Elevation:

(1)	of site above mean sea level	272.8 meters
(2)	of the top of supporting structure above ground[1/]	33.8 meters
(3)	of the top of supporting structure above mean sea level	306.6 meters

(b) Height of antenna radiation center (H&V):

(1)	above ground (AGL)	28.6 meters
(2)	above mean sea level (AMSL)	301.4 meters
(3)	above average terrain	100.0 meters

Allocation Situation

The attached Table I shows the distances to the pertinent co-channel and adjacent channel stations from the proposed FM operation. Since the petition to make the Allotment of Channel 234A to New Albany was made prior to October 2, 1989,

[1/] Including the lightning rod

its mileage requirements are subject to grandfathered provisions of Section 73.207 of the FCC Rules. Analysis of licenses, applications, construction permits, and other allotments indicates that the separation distances in the table in Section 73.213(c) may be applied to WLAP-FM, WFBQ (APP) and the allotment at Philpot, Kentucky, and its pending applications. The pending applications, BPH-900705MJ and BPH-900703MB, are provided 6 kW full-spacing separation from the proposed New Albany application.

The proposed operation complies with all pertinent co-channel and adjacent channel minimum separation requirements listed under Section 73.207 of the FCC Rules to all other stations. The distances were computed using the FCC listed geographic coordinates.

Topographic Data

The terrain data between 3 to 16 kilometers for the standard eight radials along each 45 degrees of azimuth starting with true north were obtained from the NGDC 30-second data base.

Contour Data

The distances along the standard eight radials to the limits of the 3.16 mV/m (70 dBμ) and the 1.0 mV/m (60 dBμ) contours were determined from reference to Figure 1, §73.333 of the rules and are shown on the attached Table II. The 3.16 mV/m and the 1.0 mV/m contours are shown on the map in Exhibit E-3.

Population and Area Data

The population within the 1.0 mV/m (60 dBu) contour was determined by employing a computer program using the 1990 Census data. To accomplish this, the program overlaid the 1.0 mV/m (60 dBu) contour over the land area in Indiana and Kentucky and determined the population within the contour by using the centroids for pertinent census blocks. The area of the contour was measured with a polar planimeter using the original map.

Other Ownership

The applicant has another broadcast interest, WINN(FM), North Vernon, Indiana. It is located 88.2 kilometers from the facility proposed herein. The predicted 3.16 mV/m contour of WINN(FM) in the direction of the proposed operation extends approximately 34 kilometers. The predicted 3.16 mV/m contour of the proposed operation in the direction of WINN(FM) extends approximately 10 kilometers. Overlap between the two predicted 3.16 mV/m contours would not exist since there would be more than 40 kilometers of separation. Therefore, the applicant conforms with Section 73.3555 (a)(2) of the FCC Rules.

FAA Data

The FAA has not been notified of the proposed construction since the proposed guyed tower is less than 200 feet in height and no known airports exist within 8.0 kilometers.

Main Studio Location

The main studio will be located in New Albany, Indiana, within the predicted 3.16 mV/m field strength contour.

Other Radio stations

This is in response to Paragraph 14 of FCC Form 301.

There are no FM or TV broadcast stations located within 200 meters of the proposed site.

There are two FM stations and seven pending applications for a new operation located within 10 km of the proposed site. These stations are WNAS, Channel 201A, WUOL, Channel 213B and pending applications proposed on Channel 226A at Clarksville, Indiana. A new operation on Channel 226A and the proposed operation have the potential for producing intermodulation products on Channels 218 and 242. WNAS and the proposed operation have the potential for producing intermodulation products on Channel 255.

There are two TV stations within 10 km of the proposed site. WHAS-TV, Channel 11, WDRB-TV, Channel 41 and the proposed operation have the potential to produce intermodulation products that are not on the FM or TV broadcast band.

In the event that receiver-induced intermodulation interference occurs, Midamerica will resolve any problems caused by its proximity to these operations.

There are no AM stations located within 3.22 km of the proposed site.

Blanketing Contour

The proposed blanketing contour (115 dBμ) based on an ERP of 3.0 kilowatts will extend approximately 0.68 kilometers from the site. The proposed site is in a less densely populated area west of New Albany and few if any interference problems are anticipated. The applicant will comply with all pertinent requirements of §73.318 of the FCC Rules.

FCC Rule, §1.1307

The proposed 6 kW operation (3.0 kW H plus 3.0 kW V) will utilize a three-bay FM antenna with a center of radiation above ground of 28.6 meters. The proposed side-mounted FM antenna, according to the manufacturer, meets the "best-case" downward radiation values per *OST Bulletin No. 65* and will be installed on a single guyed, uniform cross-section, steel lattice tower with an overall height of 33.8 meters (111 feet) AGL. The proposed operation based upon two methods (OST Bulletin No. 65 and the EPA model) meets the provisions of the ANSI RF radiation guideline and, thus, complies with §1.1307 of the FCC rules.

The radiation computed in accordance with *OST Bulletin No. 65* at two meters AGL near the base of the proposed tower is 63 uW/cm^2. The radiation computed in accordance with the Environmental Protection Agency (EPA) model at two meters AGL near the base of the proposed tower is 82 uW/cm^2. Therefore, both methods demonstrate that the proposed operation is in compliance with the maximum level recommended by the ANSI RF radiation guideline.

Provision will be made to reduce power or to switch the transmitter off, as appropriate, when it is necessary for authorized personnel to be at or above a point 10 meters below the lowest FM antenna bay (The EPA model predicts less than 5 meters).

An environmental assessment (EA) is categorically excluded under §1.1307 of the FCC Rules and Regulations since the applicant indicates:

(a)(1) The proposed facilities are not located in an officially designated wilderness area.

(a)(2) The proposed facilities are not located in an officially designated wildlife preserve.

(a)(3)(i) The proposed facilities will not affect any listed threatened or endangered species or habitats.

(a)(3)(ii) The proposed facilities will not jeopardize the continued existence of any proposed endangered or threatened species or is likely to result in the destruction or adverse modification of proposed critical habitats.

(a)(4) The proposed facilities will not affect any known districts, sites, buildings, structures, or objects significant in American history, architecture, archeology, engineering, or culture.

(a)(5) The proposed facilities are not located near any known Indian religious sites.

(a)(6) The proposed facilities are not located in a flood plain.

(a)(7) The side-mounted FM antenna on a proposed guyed tower will not involve a significant change in surface features of the ground in the vicinity of the tower.

(a)(8) It is not proposed to equip the tower with high intensity white lights.

(b) Workers and the general public will not be subjected to RF radiation levels in excess of ANSI standard, C95.1-1982. Authorized personnel will be alerted to areas of the tower where potential radiation levels are in excess of the ANSI standard and the transmitter power will be reduced or terminated as necessary. A security fence with a locked gate will prevent public access to the tower.

AUXILIARY POWER

The applicant proposes to install auxiliary power at the proposed FM station.

COHEN, DIPPELL AND EVERIST, P. C.

TABLE I
FM ALLOCATION SITUATION
FOR THE PROPOSED CHANNEL 234A OPERATION AT
NEW ALBANY, INDIANA
NOVEMBER 1991

Channel	Call	City/State	Geographic Coordinates	Separation Actual km	Separation Required km
234A	Proposed	New Albany, IN	N 38°17'23" W 85°54'38"	--	--
231A	RM-6461	Brooks, KY	N 37°59'20" W 85°46'18"	35.5	31
232C2	WHIC-FM	Hardinsburg, KY	N 37°52'00" W 86°14'00"	54.8	54.5
232A	WHIC-FM	Hardinsburg, KY	N 37°45'40" W 86°26'22"	74.8	31
233A	RM	Bloomfield, IN	N 39°02'19" W 86°50'08"	115.7	72
233C1	WLAP-FM	Lexington, KY	N 38°07'25" W 84°26'45"	129.6	133** (129)
234A	RM-6308	Hawesville, KY	N 37°54'12" W 86°45'12"	85.5	115*
234A	Allotment	Philpot, KY	N 37°43'03" W 86°57'32"	111.9	115** (105)
234A	New BPH-900705MJ	Philpot, KY	N 37°42'04" W 86°59'08"	114.8	114.5
234A	New BPH-900703MB	Philpot, KY	N 37°41'51" W 86°59'26"	115.4	115
234B	WFBQ (APP)	Indianapolis, IN	N 39°52'20" W 86°12'07"	177.48	178** (163)
234B	WFBQ (LIC)	Indianapolis, IN	N 39°53'59" W 86°12'02"	180.5	178

* Proposal was dismissed in a First Report and Order (MM Docket No. 88-315) adopted August 15, 1991. Commission has not deleted entry from data base.

COHEN, DIPPELL AND EVERIST, P. C.

TABLE I
FM ALLOCATION SITUATION
FOR THE PROPOSED CHANNEL 234A OPERATION AT
NEW ALBANY, INDIANA
NOVEMBER 1991
(continued)

Channel	Call	City/State	Geographic Coordinates	Separation Actual km	Separation Required km
234C	WGSQ	Cookeville, TN	N 36°10'26" W 85°20'37"	240.1	226
235B1	WRBT (APP)	Mount Carmel, IL	N 38°13'49" W 87°39'53"	153.7	96
235B	WOFX	Fairfield, OH	N 39°12'01" W 84°31'22"	157.4	113
236A	WVNI (CP)	Nashville, IN	N 39°13'39" W 86°25'05"	113.1	31
237A	WUME-FM	Paoli, IN	N 38°32'25" W 86°28'42"	56.9	31
287A	WMPI RM	Scottsburg, IN	N 38°37'12" W 85°45'15"	39.1	10
288A	WASE	Fort Knox, KY	N 37°51'06" W 85°56'45"	48.7	10

** Grandfathered under MM Docket 88-375. See Exhibit E "Allocation Situation". Pertinent grandfathered distances indicated in parentheses.

Note: At the time this application was prepared, applications for a new FM operation at Philpot, Kentucky, BPH-900706ME and BPH-900706MI had been dismissed by the FCC in its letter dated August 29, 1991. The letter indicated that the applicants had failed to pay the hearing fee. In the unlikely event applicant BPH-900706ME establishes legal standing, then Midamerica will operate with these same facilities by utilizing Section 73.215 of the FCC Rules.

COHEN, DIPPELL AND EVERIST, P. C.

TABLE II
COMPUTED COVERAGE DATA
FOR THE PROPOSED FM OPERATION AT
NEW ALBANY, INDIANA
NOVEMBER 1991

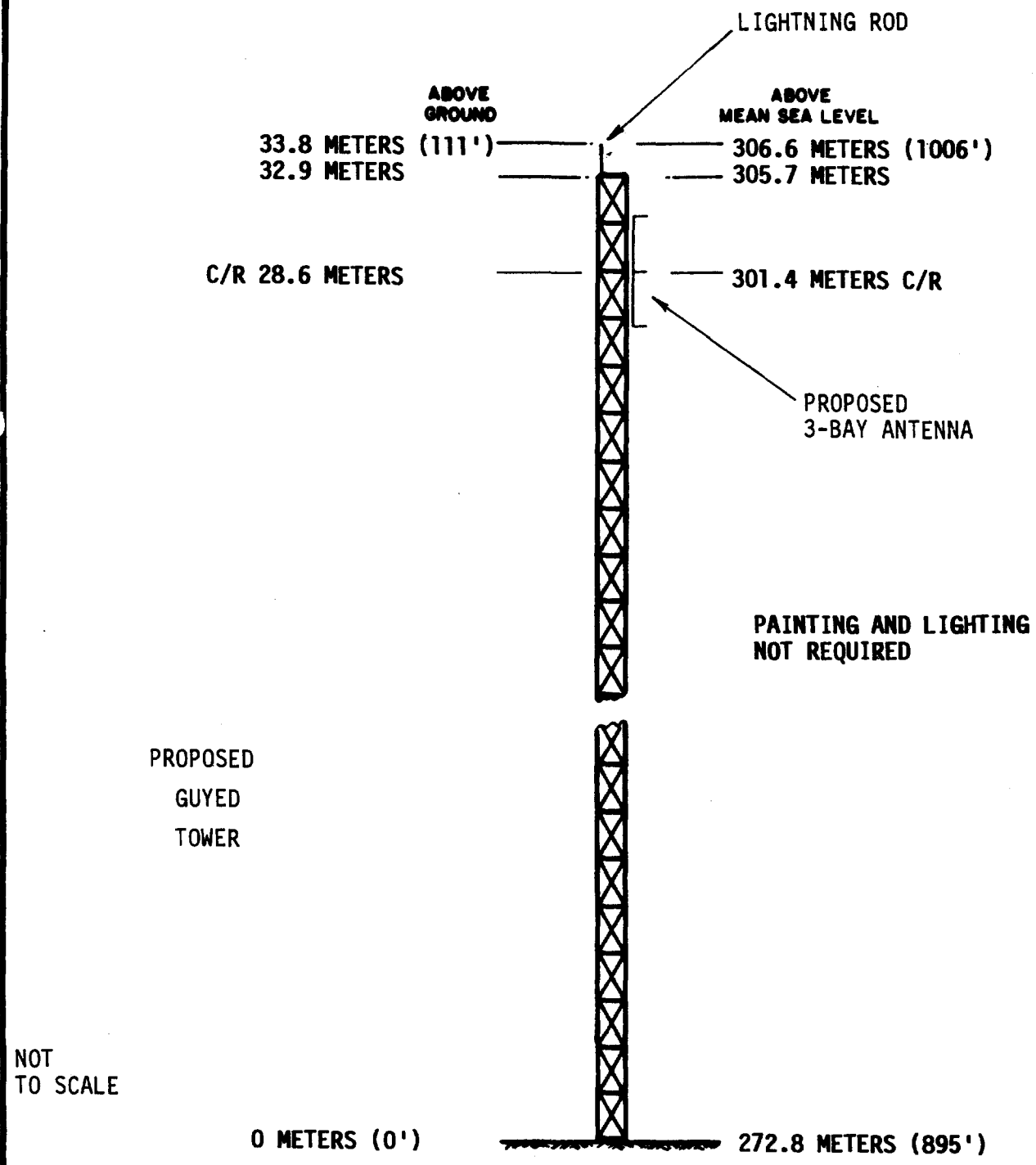
Radial Bearing N °E,T	Average* Elevation 3 to 16 km meters	Height of Radiation Center Above Average Elevation of Radial 3 to 16 km meters	Predicted Distance to Contour 3.16 mV/m km	Predicted Distance to Contour 1 mV/m km
0	247.9	53.5	9.9	17.7
45	204.4	97.0	13.5	24.1
90	139.5	161.9	17.4	30.2
135	140.9	160.5	17.4	30.1
180	180.9	120.5	15.0	26.5
225	238.2	63.2	10.8	19.3
270	224.0	77.4	12.0	21.4
315	235.2	66.2	11.1	19.8

*Based on NGDC 30-second data base.

Channel 234A (94.7 mHz)
Effective Radiated Power 3.0 kW (4.77 dBk)
Average Elevation 3 to 16 km 201.4 meters AMSL
Center of Radiation 301.4 meters AMSL
Antenna Height Above Average Terrain 100 meters

North Latitude: 38° 17′ 23"
West Longitude: 85° 54′ 38"

EXHIBIT E-I



VERTICAL SKETCH

FOR THE PROPOSED FM OPERATION AT

NEW ALBANY, INDIANA

NOVEMBER 1991

COHEN, DIPPELL and EVERIST, P.C. Consulting Engineers Washington, D.C.

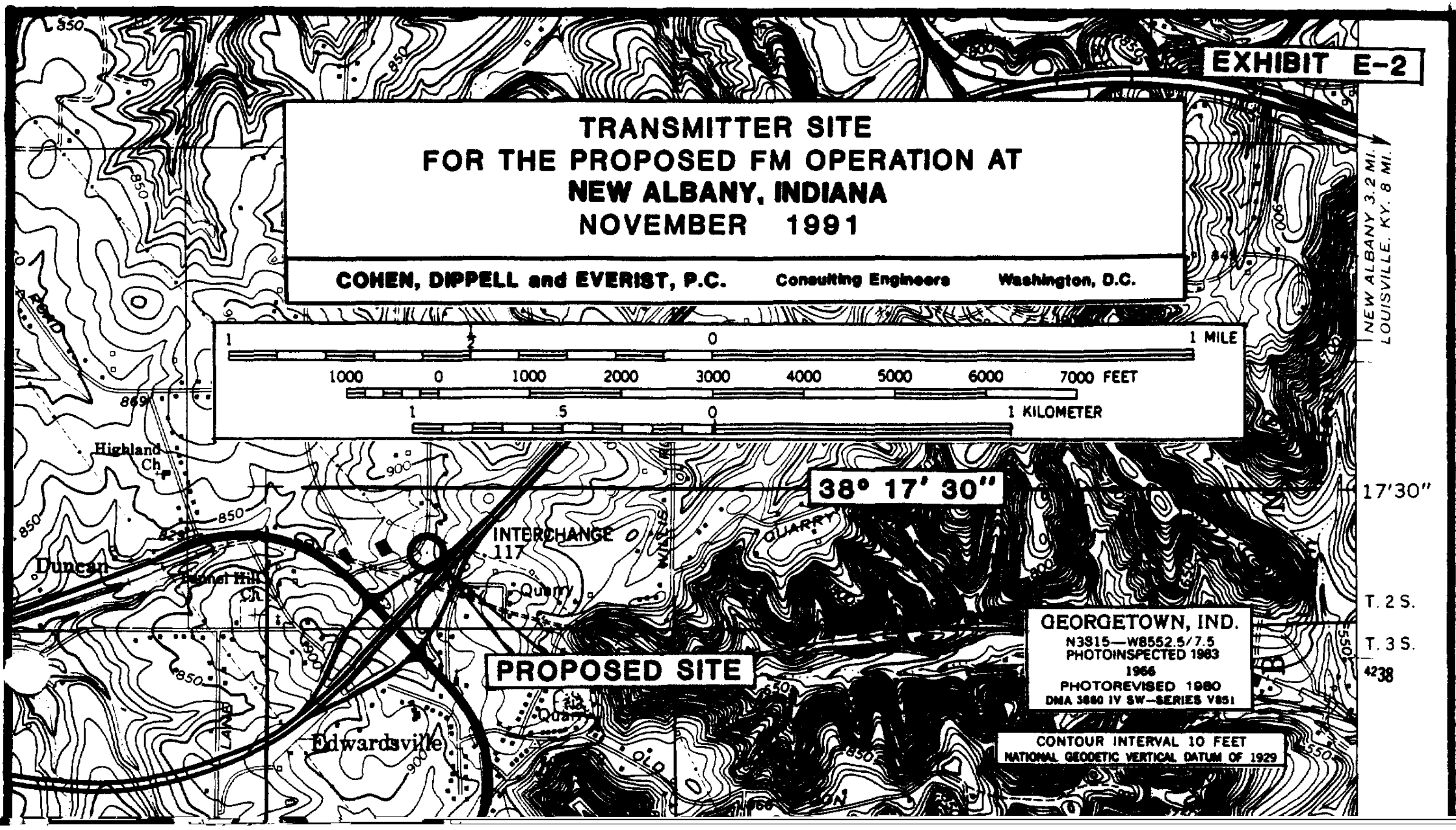


EXHIBIT E-2
TRANSMITTER SITE
FOR THE PROPOSED FM OPERATION AT
NEW ALBANY, INDIANA
NOVEMBER 1991
COHEN, DIPPELL and EVERIST, P.C.
Consulting Engineers
Washington, D.C.
1 MILE
1000
0
1000
2000
3000
4000
5000
6000
7000 FEET
1 KILOMETER
38° 17' 30"
17'30"
T. 2 S.
T. 3 S.
INTERCHANGE
117
PROPOSED SITE
Highland
Ch.
Duncan
Edwardsville
Quarry
GEORGETOWN, IND.
N3815—W8552.5/7.5
PHOTOINSPECTED 1983
1966
PHOTOREVISED 1980
DMA 3860 IV SW—SERIES V851
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
NEW ALBANY 3.2 MI.
LOUISVILLE, KY. 8 MI.

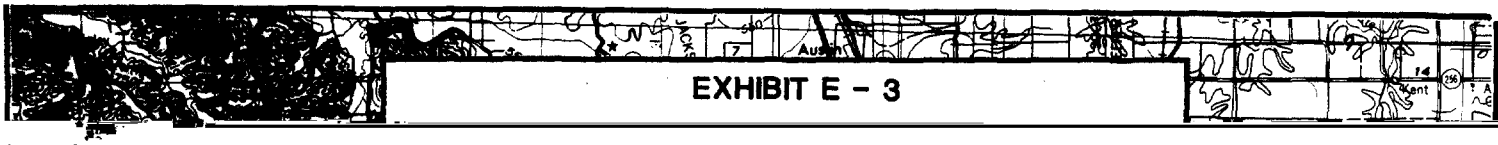


EXHIBIT E - 3